

# What are the different specifications of busbar connectors



## Overview

There are many situations where it is necessary to join two busbars to create a single, unified unit.

## Key Takeaways

Busbar connectors typically support 100–1250 A per contact, mate with 3.0 mm busbar blades, offer blind-mate alignment, and use copper-alloy contacts with silver or nickel plating, as shown in TE Connectivity and Amphenol product specifications. Overview

Busbar connectors are high-current power interconnects used in servers, data centers, industrial systems, and power distribution. Specifications vary by manufacturer, but common parameters include current rating, busbar thickness, plating, hot-plug capability, and misalignment tolerance.

Key Specifications (from TE Connectivity & Amphenol) 1. Current Rating

- 150–1250 A per contact depending on model (Amphenol BarKlip series).
- TE CROWN CLIP connectors:
  - Junior: ~170 A
  - Standard: 300 A
  - Senior: 420 A

2. Busbar Blade Thickness

- Typical mating thickness: 3.0 mm  $\pm$  0.1 mm (TE CROWN CLIP).

- TE 2204761-2: 3 mm (0.118 in).

### 3. Plating & Materials

- Contact base: Copper alloy.
- Plating: Silver (e.g., 3 µm) with nickel underplating.

- Housing: Stainless steel (TE 2204761-2).

### 4. Operating Voltage

- Up to 600 VAC / 48 VDC (TE 2204761-2).

### 5. Temperature Range

- Typical: -55 °C to +105 °C.

### 6. Mechanical Features

- Blind-mate alignment  $\pm 0.75$ –1.0 mm depending on model.
- Hot-plug capable (CROWN CLIP series).

- Screw-mount or solder-mount options.

### 7. Dimensions (example: TE 2204761-2)

- Length: 52 mm

- Width: 12 mm

- Height: 30 mm

Example Product Specs Table

| Manufacturer | Series / Part  | Current (A)  | Busbar Thickness | Plating                | Hot-Plug      | Notes                        |
|--------------|----------------|--------------|------------------|------------------------|---------------|------------------------------|
| Amphenol     | Barklip BK1200 | Up to 1250 A | 3 mm             | Low-resistance plating | Yes           | ORv3 compliant               |
| TECROWN      | CLIP Jr170     | 170 A        | 3.0 mm           | Nickel/Silver          | Yes           | $\pm 0.75$ mm misalignment   |
| TECROWN      | CLIP Std300    | 300 A        | 3.18/3.00 mm     | Nickel/Silver          | Yes           | Blind-mate design            |
| TECROWN      | CLIP Sr420     | 420 A        | 3.0 mm           | Silver                 | Yes           | High-current 12/48 V systems |
| TE           | 2204761-2      | 350 A        | 3 mm             | Silver (3 µm)          | Not specified | Stainless steel housing      |

What Specs Matter Most When Selecting a Busbar Connector

- Current rating (match system load)
- Busbar thickness compatibility
- Hot-plug requirements
- Misalignment tolerance for blind-mate systems
- Plating type for conductivity and corrosion resistance
- Thermal rise performance
- Mechanical mounting style (screw, solder, floating)

These specifications ensure safe, efficient, and reliable high-current power distribution in demanding applications.

## Article Content

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These board-to-busbar connectors are designed to meet OCP V3 power distribution architecture standards and are

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Cover various types of bus bar connectors, such as bolted, compression, and clamp

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Keep in mind that busbar products performance is usually measured in amperes (or amps). The voltage is also highly important as it

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A Comprehensive Guide to Jointing Busbars: Which Method is Best?

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Busbars

Safe and economic connection ABB busbar systems enable safe and easy cross-wiring of miniature circuit breakers, residual current

Busbar Systems Explained: Key Terminology & Practical Selection

Explore the structure, materials (copper/aluminum), packaging types (solid, laminated, flexible), electrical properties,

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Learn about the different methods of connecting bus bars and how they are used in electrical systems. Get insights

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Busbars: Electrical Types, Sizing & Design Guide

Busbar vs Cable: The Practical Difference Busbars and cables both conduct

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Busbar systems and installation accessories When connecting aluminum conductors, ensure that the contact surfaces of the

Copper for Busbars – Guidance for Design and Installation

For busbar systems, the maximum working current is determined primarily by the maximum

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### Power Applications Using High-force Press-Fit

Use of High-Force Press-Fit for Busbar Interconnects Solderfree interconnects, such as press-fit technology, offer a straightforward

### Comprehensive Guide to Busbars: Types, Design,

I. Introduction to Busbars A. What is a busbar? A busbar is a crucial component in electrical

### Busbar Design Guide

Typical Busbar Sizes If this program recommends sizes that do not fit into the ranges below, change either the number of conductors

### Catalogue SIMABUS-EPP-2829-8-16 rev2-HD

Low own frequencies of a busbar system depends on combination of several factors as, long span, large size of tubes, inappropriate

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Busbar Connectors

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Flexible Busbar: Laminated vs Braided + Ampacity

It sits between two familiar options. Cable is easy to source but bulky and termination-heavy. Rigid copper bar is

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WILLELE provides multiple busbar configurations to suit various MCB connection types. All models share a standard cross-section of

Busbar Size Chart: Types, Current Rating, Materials

Below is a practical busbar size chart commonly used in electrical engineering applications. These standard

Comprehensive Guide to Busbars: Types, Design,

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